We claim:

1. A roll assembly for a rolling mill comprising:
a roll shaft;
a mill roll driven by said roll shaft; and
a first toothed ring fixed on said roll shaft and a second toothed ring interdigitated and coaxial with said first toothed ring and fixed on said mill roll whereby said toothed rings transmit torque between them.

2. The roll assembly defined in claim 1 wherein said first toothed ring is mounted on an end face of an axial end of said roll shaft and said second toothed ring is mounted on an end face of an axial end of said mill roll.

3. The roll assembly defined in claim 2 wherein the teeth of said toothed rings are in a straight-tooth gear pattern.

4. The roll assembly defined in claim 2 wherein at least one of said toothed rings is affixed to the respective end face by a plurality of pins.

5. The roll assembly defined in claim 4 wherein said pins have axes parallel to a common axis of said toothed rings.

6. The roll assembly defined in claim 5, further comprising generally conical centering formations centering said shaft with respect to said roll.

7. The roll assembly defined in claim 6 wherein said conical centering formations include a conically tapered projection on one of said axial ends fitting into a conically tapered recess on the other of said axial end and receiving said projection.

8. The roll assembly defined in claim 7 wherein said projection is formed on said shaft and extends into said roll to a depth which is at least 30% of the axial length of said roll.

9. The roll assembly defined in claim 8, further comprising a screw connection between said roll and said shaft.

10. The roll assembly defined in claim 9 wherein said screw connection has a single screw coaxial with said shaft and said roll.

11. The roll assembly defined in claim 10, further comprising a seal between the roll and the shaft.

12. The roll assembly defined in claim 1 wherein said roll is a roll of a planetary cross-roll mill and said first toothed ring is mounted on an end face of an axial end of said roll shaft and said second toothed ring is mounted on an end face of an axial end of said mill roll.

13. The roll assembly defined in claim 12 wherein the teeth of said toothed rings are in a straight-tooth gear pattern.

14. The roll assembly defined in claim 12 wherein at least one of said toothed rings is affixed to the respective end face by a plurality of pins.

15. The roll assembly defined in claim 14 wherein said pins have axes parallel to a common axis of said toothed rings.

16. The roll assembly defined in claim 12, further comprising generally conical centering formations centering said shaft with respect to said roll.

17. The roll assembly defined in claim 16 wherein said conical centering formations include a conically tapered projection on one of said axial ends fitting into a conically tapered recess on the other of said axial end and receiving said projection.

18. The roll assembly defined in claim 7 wherein said projection is formed on said shaft and extends into said roll to a depth which is at least 30% of the axial length of said roll.

19. The roll assembly defined in claim 12, further comprising a screw single screw coaxial with said shaft and said roll for connecting said roll to said shaft.

20. The roll assembly defined in claim 12, further comprising a seal between the roll and the shaft.